

# Certificate



**No.: 968/V 1184.00/20**

<b>Product tested</b>	Plug Valves (Non Lubricated Metal to Metal Lift Plug & Switch Plug Valves)	<b>Certificate holder</b>	AMPO POYAM Valves Division Valvulas Poyam Barrio Katea Auzoa S/N 20213 Idiazabal (Guipuzcoa) Spain
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<b>Type designation</b>	High Temperature Lift Plug Valves Switch Valve (Wedge Plug Type) Standard Temperature Lift Plug Valves
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Classes: 150 ... 2500 lbs  
Sizes: 2" ... 36"

<b>Codes and standards</b>	IEC 61508 Parts 1-2 and 4-7:2010
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<b>Intended application</b>	Safety Function: Shut-off (Fail Close-FC) or blowdown (Fail Open-FO) of the process upon demand
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The Plug Valves are suitable for use in a safety instrumented system up to SIL 2 (low demand mode). Under consideration of the minimum required hardware fault tolerance HFT = 1 the valves may be used in a redundant architecture up to SIL 3 (low demand mode).

<b>Specific requirements</b>	The instructions of the associated Installation, Operation and Safety Manual must be considered.
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Summary of test results see back side of this certificate.

Valid until 2025-09-30

The issue of this certificate is based upon an evaluation in accordance with the Certification Program CERT FSP1 V1.0:2017 in its actual version, whose results are documented in Report No. 968/V 1184.00/20 dated 2020-09-30. This certificate is valid only for products, which are identical with the product tested.

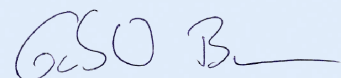
**TÜV Rheinland Industrie Service GmbH**

Bereich Automation  
Funktionale Sicherheit

Am Grauen Stein, 51105 Köln

Köln, 2020-09-30

Certification Body Safety & Security for Automation & Grid

  
Dipl.-Ing. Gebhard Bouwer

**Holder:** AMPO POYAM Valves  
Division Valvulas Poyam  
Barrio Katea Auzoa S/N  
20213 Idiazabal (Guipuzcoa)  
Spain

**Product tested:** Plug Valves (Non Lubricated Metal to Metal Lift Plug & Switch Plug Valves)

**Results of Assessment**

Route of Assessment		$2_H / 1_S$
Type of Sub-system		Type A
Mode of Operation		Low Demand Mode
Hardware Fault Tolerance	HFT	0
Systematic Capability		<b>SC 3</b>

**Close on Demand**

Dangerous Failure Rate	$\lambda_D$	4.01 E-07 / h	<b>401 FIT</b>
Average Probability of Failure on Demand 1oo1	$PFD_{avg}(T_1)$	1.79 E-03	
Average Probability of Failure on Demand 1oo2	$PFD_{avg}(T_1)$	1.82 E-04	

**Open on Demand**

Dangerous Failure Rate	$\lambda_D$	3.40 E-07 / h	<b>340 FIT</b>
Average Probability of Failure on Demand 1oo1	$PFD_{avg}(T_1)$	1.51 E-03	
Average Probability of Failure on Demand 1oo2	$PFD_{avg}(T_1)$	1.54 E-04	

Assumptions for the calculations above: DC = 0 %,  $T_1 = 1$  year, MRT = 72 h,  $\beta_{1oo2} = 10$  %

**Origin of failure rates**

The stated failure rates for low demand are the result of an FMEDA with tailored failure rates for the design and manufacturing process.

Furthermore the results have been verified field-feedback data of the last 13 years.

Failure rates include failures that occur at a random point in time and are due to degradation mechanisms such as ageing.

The stated failure rates do not release the end-user from collecting and evaluating application-specific reliability data.

**Periodic Tests and Maintenance**

The given values require periodic tests and maintenance as described in the Safety Manual.

The operator is responsible for the consideration of specific external conditions (e.g. ensuring of required quality of media, max. temperature, time of impact), and adequate test cycles.